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ABSTRACT

A study investigated whether the interaction patterns of high consensus groups differed significantly from the patterns of low consensus groups in the final stage of a decision-making task. Eighty-four college students placed into 19 groups were told to select a social problem, investigate it, and develop a solution. At the end of the three-week project, the students were administered a questionnaire that elicited the degree of their satisfaction and of their agreement with the decision of the group. D. G. Ellis's RELCOM interaction analysis was used to study the relational level in the consensus process of the groups and B. A. Fischer's Interaction Analysis System was used to examine the content of the group discussion leading to the decision. The findings indicated that both the relational and the content levels of communication were significantly different for high and low consensus groups. (FL)

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A Content and Relational Interaction Analysis of High and Low Consensus Groups

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Because previous consensus research has not examined small group interaction in its entirety in order to discover communicative behavior patterns characteristic of high and low consensus group discussion, this study analyzes the complete interaction of the final meetings of low and high consensus groups. RELCOM and FIAS findings indicate that both the relational and content levels of communication are significantly different for high and low consensus groups.

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A Content and Relational Interaction Analysis
of High and Low Consensus Groups

A decision-making group's success is often determined by the extent of group member positive feelings towards the decision. A "good" group is one in which members liked the solution to the problem, or supported the final proposal or worked to get others to adhere to the group's new policy. Consensus is a goal most groups hope to achieve and as such has been a sort of god term to scholars interested in small group decision-making. Because of the assumed goodness of consensus, a considerable amount of previous small group research has explored characteristics of groups reaching high and low consensus.

Although most previous research examined group composition or information characterisitcs, some consensus inquiries has specifically assumed that consensus levels are distinguishable in the communicative behaviors of group members. Although none of the studies presents a theoretical basis for the investigation of consensus, some investigators have examined the communicative behaviors or group members. Unfortunately, these observations included a very small data base. Typically, the studies examined groups which met for only one meeting and often allowed little more than thirty minutes of interaction.

Three general directions of inquiry encompass the studies treating consensus in communication research: study of a specific individual's behavior (Gouran, 1969); communication techniques used to reach consensus (Kline & Hollinger, 1973); and behaviors characterizing final consensus levels (Godwin and Restle, 1974; Gouran & Geonetta, 1977; Saine and Bock, 1973; Sakuri, 1975). Few of these investigations performed analysis of the total communication during even one complete group meeting.

Gouran (1969, pp. 388-389) used an eight category dimensional system to code fifty randomly selected statements from consensus and nonconsensus groups in an attempt to discover whether women and men exhibited different behaviors. He found that women in consensus groups showed less opinionatedness and made more provocative statements and objective statements than did women in nonconsensus groups. No significant differences existed between men in high and low consensus groups and no comparisons were made between males and females. One major weakness of this communication study was that only

fifty randomly selected statements were analyzed. Not only was a small sample of the total interaction analyzed, but the author gave no indication of the representativeness of the sample. However the greatest weakness of the study is that one gains no knowldege of the relationships among sequential communicative acts from the analysis.

Kline and Hollinger (1973) also looked at randomly selected statements in order to assess the redundancy of self referent words in high and low consensus groups. They examined only seventeen randomly selected statements and found self referent words (such as "I" or "my") less common in consensus than in nonconsensus groups. They concluded that members of consensus groups were much more group oriented than were subjects in nonconsensus groups. This sample was also small and not necessarily representative of the group interaction. This study also gave no indication of how the group as a whole functions at different consensus levels.

Unlike the preceding studies which either tried to pinpoint what specific group members did in high and low consensus groups, or to discover what communication strategies a group used to reach consensus, other studies have investigated the entire interaction and attempted to differentiate groups having high or low consensus on the basis of their interaction patterns. Saine and Bock (1973) for example, believed consensus could be characterized by distinct communication patterns. They subsequently attempted to discover the structuring of communication through examination of the recurring double interacts in groups with high or low levels of consensus. Their results demonstrated that in low consensus groups, statements of personal involvement and procedure tended to precede statements of group unity. They found, further, that low consensus groups also tended to exhibit more frequent phatic or relational statements, and high consensus groups tended to have statements of personal involvement followed by expressions of group unity.

Saine and Bock's (1973) results came from eye-balling the group interaction as did Sakuri's (1975, pp. 323-353) examination of the extent of advocacy of correct decision answers in groups with high and low levels of consensus. He discovered that strong advocacy of preferred answers tended to be followed by strong refusals of influence by other group members in groups with high levels of consensus. This interact was not found in low consensus groups. Otherwise, no communication differences existed between high and low consensus groups.

Godwin and Restle (1974, pp. 501-503) also scrutinized recurring double interacts. However, they counted only the number of opinion shifts from given

conservative to liberal decision options during the discussion. Regarding end states, they found that the more supporters a member had, the more likely that consensus would be high. However, the number of group opinion shifts prior to consensus did not appear to discriminate between high and low consensus groups.

Gouran and Geonetta (1977) performed the only consensus study which examined all communicative acts as they occurred in an audio-taped discussion. They appraised cumulative communicative acts via chi-squares (consensus/nonconsensus x acts category). Although chi-square analysis indicates which categories are characteristic of a group's discussion, they concluded that in high consensus groups, development and amplification of themes tended to be followed more often by theme development and acknowledgement of the theme, or by comments indicating understanding of the theme (Gouran & Geonetta, 1977, pp. 520-521). This study did not report the characteristics of groups with low consensus.

All of the preceding inquiries have attempted to analyze the communication patterns of high and low consensus groups. Unfortunately, such analyses have been overly subjective (Saine & Bock, 1973) or have only crudely treated the sequentiality of the interaction (Godwin & Restle, 1974; Gouran & Geonetta, 1977; Sakuri, 1975). Such analyses demonstrate conceptual weakness if one considers a group to be an ongoing interaction system structured by the relationship among communicative acts occurring during discussion (Fisher, Drecksel & Werbel, 1979). To truly understand how a high or low consensus group functions, one must be able to explicate the interaction patterns characteristic of the different consensus states. This shortcoming of past consensus research points to the need for exploratory research aimed at discovering the empirical link between consensus and group interaction.

Although any of several theoretical perspectives could be employed to investigate communication and consensus, the present study is couched in the framework of systems theory and the pragmatic perspective of communication (Watzlawick, Beavin & Jackson, 1967; Fisher, 1978, pp. 194-233).

Central to this theoretical perspective is the conception of the group as a social system of individuals bound together by communicative patterns. As individuals act toward and with one another in the group, their interactions serve to organize their relationships in that setting (Fisher, et. al., 1979, p. 4). Weick (1969, pp. 45-46) uses the term "collective structure" to indicate the social relationship created by the exchange of communicative behaviors to form interaction patterns. Watzlawick, et. al. (1967, p. 34) suggest that these

interaction patterns are actually behavioral constraints which individuals insert into a social system. They suggest that "pattern," "constraint," and "redundancy" are virtually interchangeable terms, so that the interaction patterns observable by empirical redundancies are the defining characteristics of the social system. They state, "The observer of human behavior then turns from an inferential study of the mind to the study of the observable manifestations of the relationship" (p. 21).

To discover the interact correlates of consensus is to investigate what, if any, interact patterns are characteristic of groups achieving high consensus and are not evident in the patterns of groups achieving low consensus. Conversely, an investigation might also result in discovering interaction patterns characteristic of low consensus groups, but which are not evident in high consensus groups. The principle research issue in the present study, then, is the search for interact correlates of consensus.

Based upon conceptual assumptions about small group behavior and previous research, interaction differences between the final meeting of high and low consensus groups are anticipated. Because previous research has not clearly translated consensus into interaction sequences characteristic of groups with either high or low consensus states, the following research question needs to be answered: Do the interaction patterns of high consensus groups in the final stage of task performance differ significantly from the interaction patterns of low consensus groups during the final stage of task performance?

Because consensus is operationalized as an outcome of group discussion, consensus should be discernible in the group's interaction patterns in its final meetings. Groups at or near a state of high consensus should reveal interaction patterns significantly different from those of low consensus groups. If consensus does have interact correlates, those patterns are most likely to be found as the group achieves its outcome. Moreover, those correlates should not be evident in the final meetings of groups which do not achieve that outcome of consensus. Although previous studies do not examine sequential communication behavior, existing results lead to the expectation of high consensus communication patterns which should include statements supporting or explaining the group's decision and expressing agreement with those explanations. Low consensus groups should be characterized by disagreement, nonsubstantiated statements of opinion, and expressions of personal commitment to the group.

Given the notion of a group as a system, low and high consensus groups should possess behavioral correlates indicative of the characteristic functioning

of either type of group. This study attempts to provide some of the answers necessary for the continuation of research investigating the behavior sequences which characterize groups reaching high and low levels of consensus.

Methodology

All groups in the basic small group course were audiotaped, and all group members filled out the consensus instrument. A total of nineteen zero-history groups containing eighty-four students was created. All groups had mixed sex and age composition and no group contained more than six or less than four members. No initial ascribed status existed in any of the groups.

All groups were required to select a social problem, investigate it and develop a solution. The problem's solution was presented to the instructor in document form. All individuals in the group received the same grade regardless of the amount of effort any member put into the project. From the time all groups formed until the project was due was approximately three weeks. The time constraint and the pressure of working for a grade were the major external pressures affecting group discussion.

Because commitment to the group decision was not required of group members, this study employed satisfaction and agreement with the decision as its definition of consensus. All four questions of the instrument were answered on a one to five scale with one as "not at all"; two as "very little"; three as "not sure"; four as "a lot"; and five as "almost completely". The four questions which each used this scale were:

1. To what degree do you support the group's solution to the problem you investigated?
2. To what degree do you support the group's selection of the problem you investigated?
3. How satisfied were you with the division of labor in completing your group project?
4. In general, how satisfied are you with your group right now?

The group average on each question was a separate indicator of the degree of group consensus. The group mean score on each of the four questions was used because the slight variation in group size caused raw scores to be sensitive to group size. Groups which were in the top quartile were considered high consensus groups. Groups which were in the bottom quartile on the questions were considered low consensus groups. Gouran and Geonetta (1977) and Saine & Bock (1973) used top and bottom quartiles in their studies because the quartiles clearly separated high and low consensus groups. This study used quartiles to assure a distinct

difference existed between groups who possessed strong decision agreement and those who reached low decision agreement.

Implementation of concurrent indicators of degree of consensus was the final check on the sensitivity of the consensus measure. If a group was in the bottom on one scale, it would also have to be on the bottom quartile on all scales and vice versa. The results demonstrated that this was in fact the case.

Levels of Consensus

After the scores were averaged, each question's scores were ranked from high to low. From this ranking the top and bottom quartiles were designated for each question. On this basis five high and five low consensus groups were selected for interaction analysis. Table one presented the rankings of the consensus results. The standard deviations of the questions were as follows: question one, .6053; question two, .6473; question three, .5704; and question four, .8186.

Although the high consensus groups clearly reflect a high level of consensus, the groups designated as low consensus were not clearly in disagreement or dissatisfied with the group outcome. To be more specific, the high consensus groups responded to the measuring instrument with an average of 4.613 (maximum = 5.0) to all four questions; whereas the average answer of low consensus groups was 3.355. Even though the range of answers is not extreme, the low consensus groups did respond to the questions with an average only slightly above the neutral position of 3.0. It might be argued that an indication of low consensus is not so much a negative version of consensus as an expression of apathy or neutrality. If this is true, the range from 1.0 to 5.0 may be unrealistic, and the more reasonable range of low consensus to high consensus may be 3.0 to 5.0. In either case, the high and low quartiles were considered a sufficient range to discriminate high and low consensus groups.

The tape recorded interactions of the last meeting of high and low consensus groups were coded on both the relational and content levels of communication. Previous consensus research has pointed to the importance of both levels of interaction in reaching consensus. Furthermore, Watzlawick, et.al., (1967) indicated that both dimensions were integral aspects of human communication. Recent studies have also indicated that at the relational level one's power position within the group and the leader's behavior were related to consensus. The content level was also important in reaching consensus because the primary focus of consensus was the group's decision. Examination of both levels of communication was considered vital to an holistic analysis of the group interaction

TABLE 1

Consensus Instrument

Group	Question 1	2	3	4	
1	5.00*	4.67*	3.83	4.83*	H
2	4.00**	4.40	3.00**	3.20**	L
3	4.60	4.60	3.40	4.60	
4	4.40	3.80	4.20	4.20	
5	5.00*	4.75*	4.00	4.00	
6	5.00*	4.60	3.80	5.00*	H
7	5.00*	4.25	3.25	3.75	
8	4.75	4.25	3.50	4.50	
9	4.33	3.33**	4.00	3.00**	
10	4.50	3.75**	3.00**	3.25**	L
11	4.25	4.75*	4.25*	3.50	
12	5.00*	4.00	4.50*	4.50	H
13	3.40**	3.80	2.80**	3.20**	L
14	4.50	4.75*	4.50*	4.50	
15	3.00**	2.67**	3.00**	2.33**	L
16	4.00**	3.60**	3.20**	3.00**	L
17	5.00*	4.80*	4.40	5.00*	H
18	5.00*	4.33	4.33*	4.67*	H
19	3.75**	2.75**	4.00	4.25	

Notation:

* = top quartile on any given question

** = bottom quartile on any given question

H = selected as a high consensus group

L = selected as a low consensus group

characteristic of differing consensus levels.

RELCOM

Ellis' (1976) RELCOM interaction analysis seemed most appropriate for studying the relational level in the consensus process for three reasons. First, RELCOM assumed relational control to be a function of communication and also used the categories of one-up and one-down suggested by Watzlawick, et. al. (1967). Second, RELCOM tapped the status distinctions typical of decision-making groups through analysis of the one-up and one-down control modes of complementary interaction. Third, RELCOM was needed to determine whether consensus was relevant only to the issues under discussion, or to determine the possibility of consensus having a counterpart in the relational interaction patterns of small group discussion.

Ellis' (1976) system consisted of five categories:

Dominance (↑ +) Attempt to severely restrict or limit other's behavioral options.

Structuring (↑ −) Attempt to restrict other's options, but leaving a variety of behavior options open.

Equivalence (→) Attempt at mutual identification.

Deference (↓ −) Expressed willingness to relinquish options while maintaining some choice.

Submissiveness (↓ +) Expressed willingness to relinquish options while maintaining little choice.

FIAS

Fisher's (1970) category system focused on the decision proposals and was highly appropriate for the study of consensus because as usually defined, consensus meant agreement with the group's final decision proposal. Not only did Fisher's Interaction Analysis System (hereafter referred to as FIAS) specifically relate to the content of the group discussion, but it also included a specific index of agreement and disagreement with the decision proposals under discussion. Under the Human Systems Model (Fisher & Hawes, 1971) approach to consensus, the most common component of consensus was agreement or disagreement with the decision-proposal. Therefore, FIAS provided a direct bridge between the HSM and ISM approach to consensus studies. The seven major FIAS categories were:

Interpretation - simple value judgment without evidence, examples or explanation

Substantiation - value judgment including supporting evidence or reasons

Clarification - both requesting and giving of statements rendering the decision proposal more concrete

Modification - direct amendments of the decision proposal

Agreement - support of statements commenting on the decision proposal

Disagreement - nonsupport of statements commenting on the decision proposal

Procedural - statements dealing with meeting procedures

Three coders were used to gain reliability of the coding systems. Reliability was determined by Geutzkow's (1950) formula, prior to RELCOM coding included: .9127 for raters one and three; .9360 for raters one and two; and .8944 for raters two and three. The mean reliability was .9144. Reliability was based upon the coding of 150 acts into RELCOM's five categories by all three raters. For FIAS reliability was: .8995 for raters one and three; .9267 for raters one and two; and .8768 for raters two and three. Mean reliability was .9010. Reliability was based upon the coding of the same 150 acts into FIAS's seven categories by all raters. All coding of the high and low consensus groups' interaction was done from the tapes. After coding, the data were pooled.

After three weeks of coding during which rater one did all the coding and raters two and three did not use the system at all, a check on reliability deterioration was performed. For RELCOM, reliability was: .8162 for raters one and three; .7876 for raters one and two; and .7383 for raters two and three. The mean reliability was .7807. Coding was done on a new set of 150 statements from the groups' interaction. For FIAS, reliability was: .8225 for raters one and three; .7664 for raters one and two; and .7854 for raters two and three. The mean reliability was .7914. Coding was done from the same set of 150 statements that the RELCOM coding came from. The deterioration may be explained by the fact that raters two and three did not do any coding for the entire three week period. All coding was performed by rater one, and the other raters were employed only as reliability checks.

The coded interaction data were first submitted to Markov analysis (Attneave, 1959; Garner, 1962; Hawes & Foley, 1973; Kullbach, Kupperman & Ku, 1962). Markovity indicated at which level or order of Markov chains to make the analytical comparisons for stationarity and homogeneity. This test for order resulted in the visual display of the interaction sequences in matrices which indicated whether the interaction possessed significant structuring at the zero order (acts), first order (interacts), or second order (double interacts). The assumptions of Markov chain analysis were highly suitable for investigation of the research hypotheses because interaction analysis assumed a finite number of coding categories and a non-fixed, but finite number of acts coded. The application of transitional probabilities, or the conditional probability of going

into another interaction state given the immediately preceding state determined whether the interaction was structured at the zero, first, or second order. Once the significant order was known, the comparisons for homogeneity (differences in the interaction patterns between different groups) could be performed.

The analysis of the last meetings of low and high consensus groups depended upon the Anderson-Goodman test (Anderson & Goodman, 1957; Hawes & Foley, 1973). This is a goodness of fit test and it generates results which are distributed similarly to a Chi-square curve. Those results demonstrate whether interaction pattern differences exist between the first or last meetings of high and low consensus groups. This application of Anderson-Goodman really tests the homogeneity of two different groups which are in this case high consensus groups or low consensus groups.

The preceding tests were particularly appropriate because they were all based in information theory. Buckley (1968, p. 191) indicated that the essence of information was the pattern or organization of the elements of a system. Because a group is a social system, its complexity rests in the sequence of behavioral acts and in the level of probability that the patterns will recur within ongoing interaction (Fisher, et. al., 1979, p. 8). Therefore, determining whether behavior sequences are significant at the zero, first or second order determines the complexity of the group system. Fisher and Hawes (1971, p. 453) summed up the appropriateness of information theory statistics for examining a group system when they demonstrated that examination of inferentially derived affective and cognitive constructs did not really examine the basis for the group's existence. Study of directly observed and empirically measured interaction does assess the group process, and information theory statistics make the communication constituting the group's state of consensus quite clear, and therefore convenient to examine.

Results

The study findings confirm the existence of differences between high and low consensus groups. This discovery of significant interaction differences between high and low consensus groups demonstrated that consensus levels are probably discernable as distinctive interaction patterns which characterize the group discussion.

For the comparison of the final meetings of low and high consensus groups, rejection of first order Markovity hypotheses was significant at the .01 level, which demonstrates that the differences in the group interaction were second order Markov chains, or double interacts. For RELCOM, Markovity results were

684.1772 (df=252). All subsequent comparisons and analyses are at the second order.

The Anderson-Goodman test for homogeneity indicated that those second order differences between high and low consensus groups, were in fact significant differences. Results of this analysis were 184.6853 at 100 degrees of freedom for RELCOM and 224. 4729 at 294 degrees of freedom for FIAS. Both results were signficant at the .01 level.

Because this inquiry provided the first interaction analysis of high and low consensus group discussion, confirmation of the research hypothesis at both the content and relational levels was of particular importance. No longer was it necessary to assume interaction varied and therefore could affect the consensus level. This study strongly suggests that interaction of a group which reached a high level of consensus differed signficantly from the interaction of a group reaching a low level of consensus.

Table 2 presents the RELCOM analysis of the differences between the final meetings of high and low consensus groups, and gives the comparative transition probabilities associated with antecedent states and selects the signficant rows from the complete matrices of group interaction. Table 3 presents the three rows which accounted for the signficant difference between high and low consensus groups. The results of the homogeneity tests indicated signficant differences between high and low consensus groups for three antecedent states: structuring/deference (↑ - ↓-); equivalence/equivalence (→ →); and equivalence/deference (→ ↓-).

For the antecedent state of structuring/deference (↑ - ↓-),in low consensus groups, the subsequent state of structuring (↑-) was most likely to follow. For high consensus groups, the double interact of structuring/deference/equivalence (↑- ↓- →) was the most typical sequence, but a trend toward deferential symmetry (↑ -↓- ↓-) also differentiated high consensus interaction from that of low consensus groups. Thus, low consensus group members tended to maintain a complementary interaction pattern (↑ - ↓- ↑-) in the final meeting, but high consensus group members were more likely to move away from complementarity toward a more transitory pattern (↑ - ↓- →).

The double interact of continued equivalent symmetry (→ → →) characterized both high and low consensus groups but was most characteristic of low consensus groups. Consistent with earlier analyses, high consensus group members exhibited a stronger tendency to respond deferentially to equivalent symmetry,

TABLE 2

Antecedent States Accounting for the Inhomogeneity of Final Meetings of High/Low Consensus Groups (RELCOM)

Antecedent State	χ^2 Value
(↑+ ↑+)	5.2622
(↑+ ↑−)	1.9229
(↑+ →)	4.9289
(↑+ ↓−)	2.1446
(↑+ ↓+)	.0000
(↑− ↑+)	9.6444
(↑− ↑−)	6.7906
(↑− →)	5.6452
(↑− ↓−)	39.0170*
(↑− ↓+)	2.2028
(→ ↑+)	3.8990
(→ ↑−)	4.2792
(→ →)	45.4297*
(→ ↓−)	14.1268*
(→ ↓+)	1.4315
(↓− ↑+)	1.1223
(↓− ↑−)	4.6854
(↓− →)	5.8499
(↓− ↓−)	11.5588
(↓− ↓+)	1.3333
(↓+ ↑+)	.0000
(↓+ ↑−)	3.0774
(↓+ →)	2.0000
(↓+ ↓−)	5.0000
(↓+ ↓+)	3.3333

* $\chi^2 > 13.2767$, 4 df ($p < .01$)

(↑+) = dominance
(↑−) = structuring
(→) = equivalence
(↓−) = deference
(↓+) = submissiveness

TABLE 3

Comparison of the RELCOM Results for the Final Meetings of High and Low Consensus Groups

Antecedent States	Subsequent States				
(↑- ↓-)	(↑+)	(↑-)	(→)	(↓-)	(↓+)
Low consensus	.0000	.4696*	.4199	.1050	.0055
High consensus	.0359	.1916	.5090*	.2515*	.0120
(→ →)					
Low consensus	.0255	.1588	.6196*	.1863	.0098
High consensus	.0043	.1214	.5443	.3300*	.0000
(→ ↓-)					
Low consensus	.0131	.1921*	.6594	.1310	.0044
High consensus	.0064	.0953	.7458*	.1483	.0042

* Cell which denotes comparative difference between rows.

↑+ = dominance
↑- = structuring
→ = equivalence
↓- = deference
↓+ = submissiveness

that is, a double interact of equivalence/equivalence/deference (→ →↓–) was more characteristic of high consensus interaction. Once again, interaction was less varied for low consensus groups with equivalence (→) being nearly four times as likely as any other subsequent state.

For the antecedent state of equivalence/deference (→ ↓ –), the subsequent state of equivalence (→) was the most likely in both low and high consensus groups. The interaction of low consensus groups was differentiated, however, by their tendency toward complementary interaction (→ ↓– ↑–), and high consensus groups by their greater tendency toward deferential symmetry (→↓–↓–). In other words, the equivalent response may occur most probably for the final meeting interaction of both types of groups; it did not serve to discriminate between them.

The tendencies toward complementary patterns (↑–↓–↑–, →↓– ↑–) and deference (↑–↓–↓–, → → ↓–, →↓–↓–) in high consensus groups both confirmed research expectations and offered insight into the actual communicative of low and high consensus group interaction. Apparently in low consensus groups, members typically tend to sustain complementary (↑–↓–↑–) and equivalent symmetrical (→ → →) patterns, while in high consensus groups members tend to revert to deferential responses to equivalent symmetry.

Examination of the content level of communication differences between final high and low consensus meetings demonstrated that significant interaction differences exist between those two groups. Table 4 presents the FIAS analysis of differences between high and low consensus groups. Table 5 presents the FIAS results highlighting the two significant rows for comparison.

For the antecedent state of interpretation/interpretation (1-1), the subsequent state of interpretation (1) was most likely for both high and low consensus groups, but this state does not really differentiate between the two types of groups. The secondary subsequent states reveal the significant difference between the interaction patterns of low and high consensus final meetings. Low consensus groups were much more likely to engage in agreement (5) as a subsequent state. Therefore, an interpretation/interpretation/agreement (1-1-5) double interact was more indicative of low consensus final meetings. On the other hand, high consensus group interaction is dissipated across the subsequent states (1-1-1, 1-1-2, 1-1-3).

Given the antecedent state of substantiation/agreement (2-5), the subsequent state of substantiation (2) was the most likely for both low and high consensus

TABLE 4

Antecedent States Accounting for the Inhomogeneity of Final Meetings of High/Low Consensus Groups (FIAS)

Antecedent State	χ^2 Value
(1-1)	16.9407*
(1-2)	15.7157
(1-3)	8.4113
(1-4)	.0000
(1-5)	10.4927
(1-6)	1.1356
(1-7)	5.0960
(2-1)	5.6846
(2-2)	9.2577
(2-3)	.4896
(2-4)	.0000
(2-5)	16.8143*
(2-6)	3.0000
(2-7)	3.0000
(3-1)	2.5689
(3-2)	11.9701
(3-3)	15.3098
(3-4)	.0000
(3-5)	11.5344
(3-6)	6.0000
(3-7)	11.2382
(4-1)	.0000
(4-2)	.0000
(4-3)	.0000
(4-4)	.0000
(4-5)	.0000
(4-6)	.0000
(4-7)	.0000
(5-1)	7.7831
(5-2)	13.3222
(5-3)	2.9413
(5-4)	.0000
(5-5)	4.6999
(5-6)	.0000
(5-7)	6.0332
(6-1)	10.0444
(6-2)	.0000
(6-3)	.8333
(6-4)	.0000
(6-5)	.0000
(6-6)	1.6000
(6-7)	.0000

TABLE 4 (continued)

Antecedent State	χ^2 Value
(7-1)	6.7818
(7-2)	.7467
(7-3)	2.7142
(7-4)	.0000
(7-5)	4.2013
(7-6)	.0000
(7-7)	8.4706

* $\chi^2 > 16.8119$, df = 4 ($p < .01$)

1 = interpretation
2 = substantiation
3 = clarification
4 = modification
5 = agreement
6 = disagreement
7 = procedural

TABLE 5

Comparison of the FIAS Results for the Last Meetings of High and Low Consensus Groups

Antecedent States	Subsequent States 1	2	3	4	5	6	7
1 - 1							
Low consensus	.4471	.1336	.1336	.0000	.2252*	.0000	.0305
High consensus	.4841*	.1614*	.1847*	.0000	.1423	.0149	.0127
2 - 5							
Low consensus	.3256*	.5581	.0543	.0000	.0620	.0000	.0000
High consensus	.1780	.5169	.1356*	.0000	.1610*	.0000	.0085

* Cell which denotes comparative difference between rows.

1 = interpretation
2 = substantiation
3 = clarification
4 = modification
5 = agreement
6 = disagreement
7 = procedure

groups, but the difference in likelihood of occurrence was not that great. Therefore, the remaining possible subsequent states were of more interest in explaining the differences between the final meetings of high and low consensus groups. Interpretation was much more likely in low consensus groups which made a substantiation/agreement/interpretation (2-5-1) double interact characteristic of low consensus final meeting discussion. Once again, however, high consensus groups' interaction was more varied. Clarification (3) and agreement (5) were much more likely in a high consensus group. Therefore, a double interact of substantiation/agreement/clarification (2-5-3) or of substantiation/agreement/agreement (2-5-5) were more indicative of high consensus communication.

Low consensus groups, then, were more likely to follow up interpretation (1), nonsupported statements with agreement (5) than were high consensus groups. In other words, when groups neared the final state of low consensus, statements were made about the decision proposal, but were not supported or developed. Other members then tended to agree to those interpretive statements. These undeveloped statements also tended to follow substantiated statements and agreement (2-5-1). However, in a high consensus group, nondeveloped statements about the decision proposal were just as likely to be followed up with substantiated statements, the requesting or giving of clarification or agreement with the statement (1-1-2). Furthermore, substantiated statements then led to agreement and clarification (2-5-5, 2-5-3). This propensity of low consensus groups to contribute nondeveloped statements about the decision proposals is in sharp contrast with that of high consensus groups to rely more on substantiation and clarification. Whereas low consensus groups tended to agree with interpretations, high consensus groups were apparently less satisfied with undeveloped interpretations and needed additional clarification or substantiation before expressing agreement.

Conclusions

The results of the study provide some evidence to support the belief that some interaction patterns are characteristic of groups that achieve different levels of consensus. Comparing the final meetings of high consensus and low consensus groups resulted in discovering significant differences in the groups' interaction. In fact, the results regarding the connection between consensus and communicative patterns are encouraging.

Although this inquiry used an approach different from past studies of consensus, the behaviors which emerged as characteristic of low and high consensus groups were usually somewhat similar to other studies' results. For example, Shaw and Blum's (1965) finding that increased feedback led to increased decision satisfaction was tangentially confirmed. Both the FIAS category of clarification (3) and the RELCOM category of equivalence (→) include seeking and giving of explanation of group decisions, and these categories were consistently more likely in high consensus group interaction. Furthermore, the high consensus group's tendency to defer (↓−) implies a greater likelihood of agreement which may indicate more supportive feedback in high consensus groups.

The absence of procedural statements in any group indirectly confirmed Brilhart's (1966) finding that leaders' procedural comments did not seem to affect the level of consensus. If procedural direction had affected consensus in FIAS findings, the procedural category would have been included in interaction sequences characteristic of high or low consensus groups. However, as the results indicated, procedural statements constituted very little of the interaction.

Kline's (1972) results obtained from enhancing high consensus via interjected orienting behavior were confirmed by the present study. The high consensus groups tended to engage in interpretation (1) in response to clarification (3) according to FIAS findings. Because orientation includes suggesting options, clarifying and pointing out alternatives, it may coincide with clarification (3) and interpretation (1).

Hrycenko and Minton (1974) achieved results which indicated that a member's satisfaction with his/her power position within a group correlated highly with that member's overall group satisfaction. This conclusion was indirectly confirmed by RELCOM. No longer is it necessary to alter the group interaction and assume that those behaviors led to the level of group consensus reached, nor to assess only group members' reactions toward what occurred during the group discussion and conclude that those reactions represent group interaction. We can state with confidence that there exist interaction patterns unique to high and low consensus groups in their initial and final stages of decision making.

Second, systems theory provides a consistent theoretical basis for consensus research. Through this approach, the conceptual nature of consensus

may be considered as interaction sequences. No longer must group researchers deal with the confusion as to whether the communication within the group caused the consensus level or the consensus level led to the kind of communication occurring during the group meeting because the communication sequences are interpretable as the consensus state. Consensus, then, is not only an outcome of group discussion. It is also a group state which possesses distinct characteristics, perhaps quite early in a group's existence. Now that a solid theoretical foundation for consensus research exists, future consensus research that answers questions raised by this investigation and further refines knowledge of the behaviors comprising consensus states is possible.

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